



# InterGen and the Quezon Power Project: Building Infrastructure in Emerging Markets

## Introduction

Greg Daul, the Philippines country manager for International Generating Company (InterGen), faced a major decision about the future of the Quezon power project. Quezon was a 440-megawatt coal-powered electric generating plant located on the island of Luzon. It was a breakthrough project—for both InterGen and the Republic of the Philippines. Quezon was the first private power plant built in the country without a sovereign debt guarantee, the first to sell directly to a distribution company, and the first to raise project financing in the U.S. capital markets. These factors increased the risk of the project, but with it, InterGen's expected returns.

First conceived in 1993/94 by Pacific Manufacturing Resource (PMR) and marshaled through early development by Ogden Energy, Inc. (OEI), the Quezon project was scheduled to come on-line in January 2000. In the two and a half years since the project was approved by InterGen's board, three of the four types of risk the company sought to manage had been substantially reduced. All construction approvals had been secured and construction was proceeding rapidly. Project financing had been raised. And, because of a favorable contract with the Manila Electric Company (Meralco), InterGen bore few operating risks. But despite this solid progress in reducing plant-specific risks, country risk seemed to be increasing. The Asian financial crisis had plunged economies across the region into recession, likely reducing demand for electricity. In addition, the Philippine government had recently approved several new power plants that would compete with Quezon for power sales. Although Meralco was contractually obligated to purchase all of the plant's electricity at prearranged prices, the presence of alternative suppliers might tempt the utility to attempt to renegotiate the terms of its contract.

Daul now had another factor to consider. Power Investments Limited (PIL) had recently approached InterGen with an unsolicited offer to purchase 50% of InterGen's stake in the Quezon Project (23% of Quezon's total equity) for \$85 million. There were several good reasons to consider the offer. Selling would lock in a \$30 million profit on the equity stake sold, reduce InterGen's exposure to the Philippines, and free up capital for other projects. On the other hand, Daul believed that the equity in the Quezon Project would be worth substantially more once the Asia crisis passed and the plant came on-line. InterGen's senior management was due in Asia in only two weeks, and Daul knew that the PIL offer would be high on the agenda. What should he recommend?

## Company Background

InterGen builds, finances, and operates international power projects. The firm is jointly owned by affiliates of Bechtel Enterprises and the Royal Dutch/Shell Group, but had its roots in the J. Makowski Corporation (JMC), a U.S. cogeneration and private power developer, and Bechtel Enterprises' development and financing efforts in international power.

*Professor Robert E. Kennedy prepared this case as the basis for class discussion rather than to illustrate either effective or ineffective handling of an administrative situation.*

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Makowski was founded in 1972 as a developer of small-scale hydroelectric plants. Over the next 20 years, JMC became a leading developer of independent power projects in the United States. By the early-1990's, JMC was generating more than 1,300 megawatts of power, primarily in the United States.<sup>1</sup>

InterGen was formed in early 1995 after Bechtel Enterprises and PG&E Enterprises acquired J. Makowski for nearly \$300 million. Bechtel Enterprises was a developer and merchant banker in the engineering and construction industry. PG&E Enterprises was a subsidiary of Pacific Gas and Electric Company whose charter was to invest outside PG&E's traditional service territory. The plan was that the new company would draw on JMC's experience with independent power projects, Bechtel's international power development, financing, and construction expertise, and PG&E's experience with fuel acquisition and contracting to serve the exploding demand for privately financed and operated power projects in emerging markets. In late 1996, due to a change in business strategy, PG&E Enterprises sold its interest in InterGen to Bechtel, which subsequently entered into a partnership with Shell.<sup>2</sup>

Carlos Riva, a 1982 graduate of the Harvard Business School, was named InterGen's first President and CEO. Riva had joined Makowski in 1985, and had been JMC's president and chief operating officer since 1993.

**InterGen's business model** InterGen created economic value by structuring and coordinating all aspects of its power development projects. This involved assembling a group of functional experts with many distinct skills, including: (1) identifying opportunities for private power projects, (2) attracting equity investors, (3) structuring power purchase agreements and operating contracts, (4) managing the construction and operation of project assets, and (5) structuring the project so that it would support non-recourse project financing on attractive terms.

The company's long-term vision was to create a series of national energy companies that controlled power and fuel assets, energy-related services, and trading activities. The company was pursuing this strategy in three phases:

1. *entry to markets*—in phase one, InterGen used greenfield development as the primary means to enter attractive markets. The company had identified fifteen countries as target markets, each of which it believed provided long-term growth opportunities.
2. *evolution*—in phase two, InterGen planned to build a global power company operating and managing a portfolio of power generation and related assets in emerging markets.
3. *expansion*—the company's long-term goal was to become a worldwide provider of power generation and energy products with equity stakes in a number of national energy companies. The national energy companies would be run locally and access local capital markets to fund their capital needs. InterGen's plan was to maintain controlling equity interests in these companies.

By late 1997, InterGen was well into phase one of its long-term plan. The firm was a leading developer of greenfield power projects, having won nine of the 14 contracts for which it bid. It managed 30 projects in 18 countries (some of which it had inherited from Bechtel Enterprises, including Quezon), accounting for more than 7000 megawatts of power and \$5.6 billion in capital commitments (see Exhibit 7 for a list of selected projects). The company's lead projects included:

- the 700 MW Samalayuca generating plant in Mexico;
- the 770 MW Rocksavage generating plant in the U.K.;
- the 720 MW Meizhou Wan generating plant in China;
- the 360 MW Jacui plant in Brazil; and
- the 235 MW TermoEmcali plant in Colombia.

Riva attributed InterGen's success to date to several factors.<sup>3</sup> These included:

- (1) establishing a tradition of trust and partnership with local communities and countries. InterGen pursued a variety of creative community and economic initiatives, including immunization programs, new schools, and infrastructure improvements for local residents;
- (2) possessing superior skills in greenfield project development and in fuels handling and storage;
- (3) leveraging Bechtel's extensive experience in project development, technology, construction, and operations; and

\* The fifteen countries at the beginning of 1997 were: the Philippines, Colombia, India, the United Kingdom, Peru, Brazil, China, Taiwan, Australia, Turkey, Thailand, Indonesia, Pakistan, Mexico, and Egypt.

- (4) having an advantage in the skills required to succeed in unstructured and deregulated power environments, including rigorous risk management, speed in execution, and financial flexibility.

While InterGen's early projects were managed from Boston, Riva moved quickly to build its presence in regional markets. The long term goal was to become a strong local player in individual markets.

"We're trying to organize ourselves to be able to do more than one or two deals a year. We're setting up regional organizations, each of which can do that much, so collectively the whole company can develop projects at a much faster pace . . . The next step is to build autonomous companies in individual countries, with the goal of establishing a global network of diversified energy companies. We want to develop a deep local understanding of the dynamics of the energy and power markets.

In each of our target countries, we will have a company with a portfolio of generating and related fuel assets that are tied together by a series of activities, such as operations and maintenance and energy trading. . . These companies will have their own management, and potentially they could raise debt and equity locally [if local capital markets develop as expected] . . . We want to be very local, to get into the countries, to establish ourselves and our knowledge base. We've chosen countries that we think have long-term growth prospects, and we want to position ourselves to capture our share of growth when it occurs."<sup>4</sup>

InterGen's projects were highly leveraged. The firm generally financed its projects with 25% equity and 75% debt, and was itself leveraged at 3:1. The company controlled more than \$1.4 billion in assets, but had no current income. Profitability was projected for 2001.

## The Global Energy Industry

Global energy consumption had grown rapidly since 1970. This growth had been fastest in developing countries, whose share of global energy demand had increased from 15 percent in 1971 to 25 percent in 1991. Developing countries' share was forecast to grow to more than 40 percent by 2010.<sup>5</sup> Growth in energy demand is driven by several factors. These include population growth, growth in per capita GDP, and urbanization. All three factors were occurring more rapidly in emerging markets than in developed countries.

The International Energy Agency, an autonomous body associated with the OECD, projects that energy demand will continue to grow much more rapidly in developing countries than in developed countries. They project that

"Energy demand in all the developing regions [will] increase at an average annual rate of 4.2 percent in the period to 2010. This implies that energy demand will more than double in these regions . . . and will account for two-thirds of the increase in world energy demand. Growth is expected to be highest in the dynamic Asian economies, but even in Africa it is expected to average over three percent per year. This compares with an average annual increase in OECD energy demand of 1.3 percent."<sup>6</sup>

Per capita energy consumption was closely tied to per capita GDP, a measure of economic wealth. Asia enjoyed the world's highest growth rates and, as a result, energy consumption was booming. The Asian share of world consumption of electricity jumped from 18 percent in 1985 to 29 percent in 1995 (see Exhibit 2). Starting in the 1960s, several of the most successful "Asian tigers" highlighted the energy sector as a crucial component of their development strategies. Hong Kong, Singapore, South Korea, and Taiwan all expanded generating capacity rapidly, providing a comfortable surplus over projected demand (see Exhibit 3).

Power projects had traditionally been financed by national governments or the World Bank and operated as state-owned enterprises. During the past 50 years, nearly 15% of the World Bank's development funds were invested in the power sector, at a rate of \$12 to \$15 billion annually.<sup>7</sup> But gold plating, poor investment decisions, and government intervention in the daily operations of power producers led to large economic costs and financial losses. Many countries altered their strategies in the 1990s, shifting toward private financing and ownership of new plants. The shift initially occurred because national governments lacked the funds to finance newly required capacity while, at the same time, the flow of private investment to developing countries was increasing rapidly. But experience had shown that privately owned plants could be built with lower capital costs and operated more efficiently than state-owned plants.<sup>8</sup>

Private power provision in emerging markets had grown dramatically in the 1990s. Between 1991 and 1996, 151 independent power projects (IPP) had been approved and raised financing for plants in developing countries. Fifty-nine of these projects, accounting for 35,747 megawatts of capacity (66 percent of the total), were in the Asia Pacific region.<sup>9</sup>

The World Bank projected that at least 290,000 MW of new generating capacity would be required in Asia between 1996 and 2005. This meant that an average of 2,400 MW would be added *every month*, at a cost of about \$35 billion per year.<sup>10</sup> The combination of declining assistance from international institutions and exploding demand for generating capacity created an attractive opportunity for private firms. U.S. firms—including InterGen, Enron, and AES—were leading the way.

## Opportunities in the Philippine Energy Market

**Country Background** The Philippines is an archipelago of more than 7,000 islands about 500 miles off the southeastern coast of Asia. The country has a total land area of about 300,000 square kilometers, but is scattered over 1.29 million square kilometers of ocean. Although Chinese traders visited the islands and traded with locals starting around 1000 AD, it was Ferdinand Magellan's "discovery" in 1521 that introduced a strong Spanish influence to the country. In 1571, the Spanish settled in Manila and from there took control of the region. There were periodic revolts against Spanish rule but none succeeded.

The country is divided into three major island groups. Luzon, in the north, is the largest and represents about 35 percent of the total land area. Mindanao, in the south, is the second largest and includes the islands of Sulu and Tawi-Tawi. The Visayas are the third major island group (see Exhibit 1).

The islands were ceded to the United States after the American victory in the Spanish-American War of 1898. U.S. colonial rule lasted until 1935, when the Commonwealth of the Philippines was established. Progress toward independence was delayed, however, by the outbreak of World War II and the subsequent Japanese invasion. The independent Republic of the Philippines was proclaimed on July 4, 1946 with a constitution modeled after the U.S. constitution.

Manuel Roxas, a member of the newly formed Liberal Party and the former speaker of the Philippine House of Representatives, was elected the first president of the new republic. During the next two decades, four presidents governed the Philippines, until Ferdinand Marcos gained the presidency in 1965. Marcos, a brilliant law student as well as a member of both the Philippine House and Senate, was reelected for a second term in 1969. He declared martial law in 1972, a state that continued formally until 1981. The assassination of opposition leader Benigno Aquino in 1983 became a focal point of mounting opposition to Marcos' corrupt rule. A revolt led by General Fidel Ramos, Marcos' defense minister and chief-of-staff, drove him from power in 1986. Corazon Aquino, Benigno's widow, took over as president and worked to establish democratic institutions. Her administration was marred by six coup attempts. Although all were unsuccessful, the political turmoil slowed economic progress and scared off potential foreign investors. Aquino was succeeded by General Ramos in 1992.

Ramos moved to stabilize both the political and economic situations. He introduced a series of economic reforms (discussed below) and moved to make peace with several separatist movements. In August 1996, the government reached an agreement with the Moro National Liberation front, a leading separatist group on Mindanao.

The Philippines has a very young population. Forty-eight percent of Philippine citizens are under 20 years old, and 57 percent of the population is of working age (i.e. between 15 and 60 years old). Urbanization was occurring rapidly, with approximately 41 percent of the population in urban areas in 1995, and the urban population growing at 4.8 percent annually.<sup>11</sup>

**The Philippine Economy** Long considered the "sick man" of Asia, the Philippine economy experienced rapid growth in the mid-1990's. The 1980's had been characterized by wide economic fluctuations. GDP contracted sharply in 1984 and 1985, grew strongly from 1986 to 1988, but suffered a sharp contraction following a violent coup attempt in 1989.

Under Presidents Aquino and Ramos, the Philippines initiated a series of economic reforms, including: import and foreign exchange liberalization, tariff restructuring, public sector streamlining, tax reform, privatization, and an opening to foreign investment. The government allowed 100% foreign equity participation in most sectors. In others, such as public utilities, foreign ownership was limited to a maximum 40%.<sup>12</sup> In addition to these policy reforms, a series of debt restructuring and buybacks reduced the Philippines' debt service burden from about 40% of export earnings in the mid-1980s to less than 20% in 1996.<sup>13</sup> President Ramos' first executive order, on June 30, 1992, was aimed at encouraging the importation of electric generation equipment by granting a 3-year duty exemption.

These reforms led to improved economic performance. GDP growth, fueled by strong export growth and investment spending, averaged 4.5 percent between 1993 and 1996.<sup>14</sup> Inflation declined from 12 percent in 1991 and stabilized at around 8 percent. The nominal value of the peso was stable against the U.S. dollar between 1991 and 1996, implying a slow real appreciation of the currency. The country ran a consistent, but apparently manageable, current account deficit of between four and five percent of GDP. Healthy direct investment flows and moderate external borrowing offset the current account, boosting foreign currency reserves to more than US \$10 billion (see Exhibit 4).

Per capita GDP in 1996 was approximately US \$1,000. This was substantially higher than Vietnam (US \$215) and India (US \$330), but far below Thailand (US \$2210) and Malaysia (US \$3520).

**The Energy Sector** The 1990s saw a fundamental transition in the Philippine energy industry, from state domination to market orientation, with private firms playing a major role. Total energy demand was expected to grow by approximately 7 percent per year between 1996 and 2010. Demand for electricity was forecast to grow even faster, particularly on the main island of Luzon. The requirements for financing an expansion of generating capacity far exceeded the resources available to the government, so regulators and planners were forced to rely on private sources of capital.

The Department of Energy (DOE) was responsible for regulatory oversight and long range planning for the power industry. The DOE's goals were to reduce dependence on foreign energy sources by developing domestic hydroelectric and geothermal sources of energy, and to complete electrification of the country by the year 2000.<sup>15</sup>

The DOE organized the industry into four distinct segments: development and exploration, generation, transmission, and distribution. The Philippine National Oil Company (PNOC) held a monopoly on development and exploration. Reforms implemented under Presidents Aquino and Ramos (see below) allowed some foreign participation in exploration, but this was permitted only through joint ventures with the PNOC.<sup>16</sup> The country was extremely dependent on foreign energy sources—domestic energy sources covered 26% of primary consumption in 1996, and imported oil accounted for 71% of consumption.<sup>17</sup>

The Philippine National Power Corporation (NPC) held a monopoly on both power generation and transmission. NPC was also permitted to sell bulk power directly to industrial and government customers whose demand exceeded 100 kW. In 1995, the Philippines had a total installed generating capacity of 9564 MW, of which 74 percent was on the island of Luzon. Independent power producers accounted for approximately 40 percent of this capacity (19 percent privately owned and operated, and an additional 22 percent where IPPs operated NPC-owned facilities).<sup>18</sup> NPC's power development program called for adding more than 26,000 MW of capacity between 1996 and 2010, and assumed that more than 90 percent of new generating capacity would be financed and operated by IPPs.<sup>19</sup>

Distribution was handled by private utilities and electric power co-operatives. By far the largest was the Manila Electric Company (Meralco). Meralco was founded in 1903<sup>†</sup> and had been private ever since. The firm held a monopoly on electricity distribution in the capital city and for the area within a 90-km radius.<sup>20</sup> The service area covered 9,328 square kilometers—including Metro Manila, 10 other cities, and 101 municipalities. Meralco enjoyed a monopoly position in its service area. Its franchise to serve Metro Manila, which accounted for 75 percent of Meralco's sales, was due to expire in 2003, although the company expected the franchise to be renewed.

Meralco's service area accounted for about three percent of the Philippines' land area but produced 73% of the country's GDP. Meralco employed 8,500 people and distributed electricity to about 2.7 million customers. Because of the concentration of industrial and commercial customers, Meralco was 20 times as large as the next largest distribution utility.<sup>21</sup>

Meralco's customer base (in terms of kWh) was 33 percent residential, 32 percent commercial, 34 percent industrial and less than 1 percent government. Meralco accounted for 59% of total NPC sales and 78% of its sales on Luzon.<sup>22</sup>

**Energy Sector Reform** Until the 1990s, the power industry was heavily regulated in the Philippines. Close government supervision of the industry dates to 1971 when NPC was granted sole responsibility for

<sup>†</sup> When it was founded, the company was known as the *Manila Electric Rail and Light Company*, hence MERaLCo.

developing and operating the country's generating facilities. The presidential directive called for NPC to take over all existing generating facilities—including those operated by Meralco which, at the time, accounted for 55 percent of the country's generating capacity.

NPC maintained its monopoly on generation and transmission until 1987 when, in response to persistent power shortages, President Aquino issued an executive order that opened up power generation to private entities. The shortages occurred because, due to financial pressures, NPC had consistently delayed both new plant construction and rehabilitation of existing plants. Aquino's executive order allowed private entities to construct and operate generating plants. The 1987 executive order was extended in 1989, when the country passed a broader "Build-Operate-Transfer" (BOT) law that expanded the scope of private sector financing to include all government infrastructure projects. The law had several limitations, however. NPC retained the right to accredit IPPs, and entrants were required to sell their power to NPC. Private generators were also required to negotiate with NPC for high-voltage transmission and back-up maintenance.

Despite these regulatory reforms, little progress was made and the power crisis continued. Political pressure forced the cancellation of a nearly complete 625 MW nuclear plant and NPC continued to defer new construction and maintenance. By 1991, urban areas suffered from prolonged and frequent brownouts, often lasting 10-12 hours per day in the summer months. The outages became a major impediment to the economy and more than 1.6 million workers were laid off or had their hours cut in 1992.<sup>23</sup> An independent study, issued by the *Financial Times*, concluded that the 1987 law had little effect because potential IPPs encountered "prolonged price negotiations with NPC for these services [transmission and back-up maintenance]. [This] usually led to failure of the project."<sup>24</sup>

During the first months of Ramos' presidency, the supply deficit on the Luzon power grid was estimated to have reached 1,000 MW (a more than 25 percent shortfall).<sup>25</sup> At the height of the crisis, the congress granted President Ramos emergency powers to deal with electricity shortages.<sup>26</sup> Ramos used these powers to push through several private power projects under a "fast-track" approval process. Fast track allowed NPC to grant blanket approvals that encompassed investment certification, environmental compliance, foreign exchange remittance, and all other approvals. The Ministry of Finance also guaranteed NPC's financial obligations to purchase the power at agreed upon rates, thus eliminating a major risk for IPPs. The fast track program led to eight project approvals, accounting for 1120 MW of capacity in its first two months. The first IPP came on line in 1991. By year-end 1996, 30 projects with a combined capacity of almost 5,000 MW had been completed. In addition, six projects with a capacity of 1,370 MW were under construction and more than 5,000 MW was lined up for bidding.

By 1997, new IPP capacity had largely solved the immediate power crisis, but demand for electricity was forecast to increase at more than 7 percent annually through 2010. The country's *Power Development Plan* estimated that at least 26,000 MW of additional capacity would be required by 2010 (see Exhibit 5). NPC estimated the capital costs associated with this growth in capacity at more than US \$1.8 billion annually. Because both NPC and the government were cash strapped, the private sector would have to play a large role. NPC planned to build only 2,400 MW (9 percent of required capacity), leaving more than 24,000 MW to be built by the private sector.

The DOE had an ambitious agenda, aimed at promoting competition, increased capacity, and increased efficiency through private participation in the power sector. First, it advocated the creation of a National Transmission Company (NTC) that was independent of NPC. Second, the DOE planned to privatize NPC, placing it on an equal footing with other generation companies. Third, the DOE hoped to strengthen the distribution sector by encouraging mergers among small distribution utilities, allowing them to achieve economies of scale and improved operational efficiency.<sup>27</sup> Finally, the government hoped to reform the tariff structure, raising rates across the board to cover long-run marginal costs and reducing cross-subsidies across customer groups. At present, commercial and industrial customers paid substantial cross-subsidies to residential and governmental customers (see Exhibits 6a and 6b).

## InterGen's Philippine Opportunity

**Background** The origins of the Quezon project could be traced to a decade-old relationship between Meralco and Pacific Manufacturing Resource (PMR), a consulting firm run by Daniel Chalmers, the Philippine-born son of an American missionary. Meralco had contracted with PMR to conduct a total-quality management program. The power crisis became increasingly severe during the course of this program and Chalmers saw an opportunity to develop an IPP. PMR submitted a preliminary proposal to Meralco in August

1992, but this was not accepted. When negotiations between Meralco and another developer fell through in mid-1993, PMR and Meralco signed a Memorandum of Agreement (MOA).

Subsequent to the signing of the MOA, PMR recruited several experienced Philippine power industry executives, including senior executives from NPC. In early 1994, PMR and these executives formed PMR Power, a new company 50 percent owned by PMR and 50 percent owned by the Philippine executives. PMR Power sought the participation of a strategic U.S. partner to assist in the development and ownership of the project. After extensive competition, Ogden Energy, Inc. (OEI), a leading operator of independent power facilities, was selected as the co-development partner.

After an extensive negotiation led by OEI, the project signed a 25-year, take-or-pay power purchase agreement (PPA) with Meralco in August 1994. The agreement obligated Meralco to cover both fixed and variable expenses for the plant, contingent on timely construction and as-contracted plant performance.

Following the PPA negotiations, OEI completed a co-development agreement with Bechtel Enterprises, Inc. The partners executed a Memorandum of Understanding on September 7, 1994. The agreement, as subsequently amended, ultimately granted PMR a 2 percent ownership interest for no monetary contribution. The equity commitments and ownership positions were the following.

Table A

|                   | Ownership<br>Interest<br>(%) | Equity<br>Commitment<br>(%) | Equity<br>Commitment<br>(US\$ millions) |
|-------------------|------------------------------|-----------------------------|---|
| InterGen          | 71.875%                      | 72.5%                       | 146.6                                   |
| Ogden Energy, Inc | 26.125                       | 27.5                        | 55.6                                    |
| PMR Power         | 2.000                        | -                           | -                                       |

After InterGen was established in 1995, Bechtel assigned the project to its new affiliate.

**Project Description** The Quezon project consisted of a 440 MW baseload pulverized coal-fired electric generation plant, a 31-kilometer 230-kilovolt transmission line, and related facilities. The generation facility was located on a 100-hectare coastal site in Mauban, Quezon Province. Meralco had signed a 25-year take-or-pay power purchase agreement to accept the plant's entire output. The parties had signed an agreement with NPC to wheel the electricity to Meralco.<sup>‡</sup> The transmission line connected the generation plant to NPC's transmission system. The project was scheduled to come on-line in January 2000 and was expected to be profitable in its first year.

The project was designed to have low construction and operating risk. The generating plant used a modern version of the reliable and efficient coal-fired steam generator that had been the mainstay of the electric generating industry since the 1950s. In 1995, there were at least 370 plants with similar designs operating in North America.

Quezon had signed long-term coal supply agreements with two Indonesian firms—Adaro and Kaltim Prima—who would supply 67% and 33%, respectively, of the fuel for the plant. In the event that suppliers failed to fulfill their obligations, the plant was geographically well situated to receive from coal other sources.<sup>28</sup> While the plant relied on imported fuel—and one of the government's goals was to move toward indigenous fuel sources—the DOE supported the project because it provided badly-needed generating capacity, replaced oil-fired capacity, and was more suitable than fuel oil for baseload generation.<sup>29</sup>

The generation facility and transmission line were designed by Overseas Bechtel, Incorporated (OBI), while the construction and project management were performed by Bechtel Overseas Corporation (BOC). Both firms were subsidiaries of Bechtel Corporation.

Philippine law stated that only Philippine citizens or Philippine-controlled corporations could own land or real property. Because of this law, the deal was structured so that Meralco owned all land and rights-of-way

<sup>‡</sup> Wheeling power refers to transmission of power for a fee.

required for the project. Meralco leased its interest in this property to the project company for the duration of the power purchase agreement.

The plant marked several milestones for the Philippines. It was the first significant private sector generation facility that would sell power directly to a private utility. It also included the first privately developed high voltage transmission line in the country.

Perhaps most significantly, the Quezon project was the first private project financed without the benefit of a sovereign guarantee by the central government. Prior to Quezon, project finance had not been possible without a sovereign guarantee from the government. The Department of Energy considered Quezon's guarantee-free financing a major accomplishment because it knew that the national government would be unable to provide guarantees for the huge volume of private projects required before 2010. The project's guarantee-free status had both costs and benefits from the owners' perspective. It raised the cost of financing somewhat. On the other hand, it dramatically reduced the ability of the Ministry of Finance to become involved in project minutia. InterGen believed this was a net plus, as it would streamline the development process and allow the plant to come on-line more quickly.

**The Partners—Roles and Responsibilities** InterGen contributed 72.5 percent of project equity and controlled a 71.9 percent voting interest. InterGen's responsibilities were to: (1) jointly arrange project finance with OEI, (2) to manage Bechtel and other Engineering, Procurement, and Construction Management (EPCM) contractors while the plant was being built, and (3) provide the project administration after the plant came on-line. In essence, InterGen was responsible for the overall commercial management of the project. The management services agreement was a 25-year, cost-plus fixed-fee contract. The annual fee in excess of costs was set at US \$400,000, subject to escalation.

In addition to its status as an owner, Ogden Energy, Inc. (OEI) was responsible for operating and maintaining the generating plant in accordance with standard industry practice. Ogden's operation and maintenance agreement provided for reimbursement of all plant-related costs, plus a monthly fee of US\$160,000. OEI was also eligible for bonuses based on net electrical output, good citizenship, and meeting budgetary targets.

PMR had an active role in the development process, bringing valuable local expertise to the project team for which it earned a two percent carried interest. After commercial operation, PMR would not have an active role.

**Transaction Structure** The project had a somewhat complex ownership structure (see Exhibit 8a). Ownership was divided among the three partners as follows. Quezon Power (Philippines), Ltd. ("The Project") was 98% owned by Quezon Power, Inc. (QPI), a Cayman Islands holding company. QPI was itself owned by two other Cayman corporations, controlled by InterGen affiliates and Ogden affiliates. The final two percent equity ownership in the project was held by PMR Limited (Philippines), a PMR subsidiary.

The Project also entered into a complex set of operating contracts (see Exhibit 8b). The key contracts were the following:

1. the management services contract with InterGen,
2. the operations and maintenance contract with Ogden,
3. the power purchase agreement with Meralco,
4. the agreements with Meralco to lease land for the generating plant and transmission line,
5. the EPCM contracts with Bechtel affiliates BOC and OBI,
6. the coal supply agreements.

Project costs totaled US \$808.9 million, and were financed with 75 percent debt (US \$606.7 million) and 25 percent equity (US \$202.2 million). These project costs included US \$35 million in budgeted contingency costs. They do not include an additional US \$50 million in overrun commitments (a US \$30 million debt facility and US \$20 million in contingent equity commitments). Exhibit 9 presents the financing plan for the project.

The major uses of funds were: US \$465 million in EPCM costs, US \$46 million in development costs and fees, US \$50 million in startup and other owner costs, US \$75 million in financing costs during construction, and US \$68 million in other financing costs (see Exhibits 9 and 10 for a detailed breakdown of project costs).



**Project Risks** InterGen management was quite systematic about managing project risk and believed that risk management was one of the firm's core competencies. The company categorized risks into four broad categories and had programs to manage each type. The categories were (1) approval and construction risks, (2) financing risks, (3) contractual and operating risks, and (4) currency / country risks.

*Approval risk* included the possibility of opposition from both official (e.g. government and regulatory) authorities and unofficial sources. The risk of opposition from official authorities was reduced because the country desperately needed the power Quezon would generate. The official approval process was moving rapidly. Environmental and construction approvals were secured, land for the project was taken by eminent domain, and plant management was working closely with local authorities on safety issues. InterGen believed that PMR's contacts at the DOE would help manage any future regulatory conflict.

Unofficial opposition was another matter entirely and by no means assured. A small group of local activists opposed the plant on environmental and "not-in-my-backyard" (NIMBY) grounds. The group, which was led by a woman who had moved from Canada to Mauban, had filed numerous environmental and safety grievances against the plant.

InterGen put significant effort into winning local support for the plant. The firm undertook a extensive community development program, described in a comprehensive memorandum of understanding that InterGen had signed after negotiations with the Mauban community. The program included livelihood training, school assistance, new homes for displaced families, medical programs, and numerous investments in local infrastructure projects—including roads, water and drainage systems, and the local electricity distribution system.

In October 1997, activist complaints about minor infractions of the project's Environmental Compliance Certificate led to a temporary construction halt. But, with the implementation of mitigating environmental measures and the assistance of local supporters, matters were quickly resolved and construction continued ahead of schedule.

InterGen also considered *construction risk* to be minimal. Bechtel had been building and servicing power plants for more than 40 years. The EPCM contracts guaranteed the completion date (December 1999) as well as operating and environmental performance levels. The EPCM contract contained substantial penalties if provisions were not met.

*Financing risk* was somewhat greater than approval and construction. Equity contributions from InterGen and OEI were assured, but debt financing would be complicated by country risk and the novelty of the financing structure. The project was the first significant one in the country without a sovereign guarantee. Construction financing from the Eximbank had received preliminary approval, but the plan also called for US \$215 in financing from the public capital markets. The project's investment bankers (Salomon Brothers, Citicorp Securities, Fieldstone, and UBS Securities) were optimistic about the prospects for a successful offering, but nothing was assured until a major lender had signed on. InterGen believed it was well placed to handle the financing risk. It led the industry in aggressive and innovative financing structures and its close ties to Bechtel and the Royal Dutch Shell Group would help calm investors' fears about project risk.

If the plant performed as projected there would be minimal *operating risk*. The Quezon plant used standard generation technology, and InterGen, Ogden, and Bechtel all had extensive experience in constructing and operating similar plants in emerging markets. The take-or-pay power purchase agreement obligated Meralco to cover both fixed and variable operating costs, as well as the full cost of fuel. Coal supplies were assured with long-term contracts. Both suppliers were located in Indonesia, so political instability might threaten these particular supplies, but the international market for coal was well developed and the plant would have little difficulty finding alternate supplies.

The project's major operating risk was that it relied on a single customer, Meralco. This led to two risks, ex-post renegotiation and Meralco's business franchise. The prices in the power purchase agreement were in line with prevailing rates, so the plant would not induce Meralco to raise rates. But the PPA was largely denominated in US dollars, so Meralco had assumed all currency risk. Further, Meralco's franchise to serve the City of Manila was due to expire. InterGen's SEC registration for its public debt described the exposure as follows:

Payments from Meralco under the power purchase agreement will be the [project's] principal source of revenues . . . Meralco's franchise to provide electricity to the City of Manila, which accounted for 75 percent of its electricity sales in 1994, expires in 2003. Meralco was originally granted this franchise in 1903 and subsequently

had it renewed in 1947 and 1964. Meralco has informed the company that it expects the franchise to be renewed, but there can be no assurance that [this will be the case]. In the event of nonrenewal or adverse modification of the franchise, Meralco would remain obligated under the Power Purchase Agreement to make payments to the company. [But] nonrenewal or adverse modification could result in Meralco being unable to fulfill its obligations.

The final category of risk involved *currency and country risk*. To minimize currency risks, both the debt and the Meralco contract were denominated in U.S. dollars. Only local O&M expenses were denominated in Philippine pesos. Meralco was obligated to cover all fixed O&M charges, regardless of the cost of the project.

As in all emerging markets, it was difficult to forecast country risk. InterGen had placed the Philippines on its list of target countries because it felt the country risk would decline over time. The country had a working democracy, so the threat of a revolution or violent upheaval was small. Further, after many years as a laggard, the government had implemented an economic reform program that was widely heralded.

**Project Economics** InterGen's management believed that the Quezon project offered financially attractive returns. While any infrastructure investment in a developing country involved substantial risk, the project's operating contracts were such that most risks were borne by those best able to manage them. The project's operating contracts provided that: PMR and InterGen managed approval risk; Bechtel handled construction risk; InterGen accepted responsibility for raising debt financing; and Meralco bore demand risk.

In late 1995, Daul had completed the financial projections for the project. After carefully constructing his best estimate of project and equity cash flows and considering the various types of risk, he settled on a project discount rate of 12 percent and an equity discount rate of 20 percent (see Exhibit 10 for detailed financial projections). The analysis was designed to secure Board of Directors' approval for development funds, but Daul knew that he would live with these forecasts for the life of the project.

Daul's analysis led to a project NPV of US \$58.4 million (a 13 percent IRR) and an equity NPV of US \$22.5 million (23 percent IRR). Table B below compares projected NPVs at different points in time. The Board granted preliminary approval on December 15, 1995 and full scale development started.

In addition to the financial valuations, Daul's board presentation reviewed the various factors that helped to mitigate project risk. These were:

1. strong project sponsorship by InterGen, OEI, and PMR.
2. substantial sponsor undertakings, with more than US \$200 million committed by equity participants, as well as financial and performance guarantees for EPCM activities provided by Bechtel.
3. the importance of the project to the Philippines, specifically the substantial power shortfalls forecast for the Luzon region, job creation, and more than US \$200 million in tariffs, VAT payments, and franchise fees paid to the Philippines government during the first five years of operation.
4. political risk mitigation in three forms. The project purchased an Eximbank guarantee for expropriation, political violence, and currency inconvertibility. Second, Meralco's payment obligations were absolute and unconditional. Finally, the Philippines foreign currency debt rating had been recently upgraded.
5. the presence of a creditworthy power purchaser. Meralco was a regulated monopoly with a strong balance sheet and substantial cash flow. The company's rate structure included several automatic rate adjustment clauses.
6. the use of proven technology.
7. Bechtel's experience. The firm had been a leader in the power industry for 40 years and had worked on more than 320 fossil fuel-fired units with a combined capacity of over 80,000 MW.
8. the plant's status as a milestone private investment for the country.
9. minimal financing risk—because Eximbank construction financing had been secured.
10. robust plant economics. Meralco was obligated to pay fixed charges even in the event of service interruptions, fuel charges were passed through directly to Meralco, and the project had the right to pass through any increased costs resulting from legal or regulatory changes.

In addition to the value of the Quezon as a stand-alone project, the project had additional option value. To date, Riva's vision of creating a series of national energy companies was a long-term strategy. But both Daul and Riva believed that the Philippines was fertile ground to develop the concept. If Quezon succeeded, it could become the platform on which Riva's vision was built.

## Events since Approval

Following board approval, Daul spent the next year negotiating operating contracts and gaining regulatory approvals. These included Ogden's operations and maintenance contract (December 1995), the transmission line agreement (June 1996), the EPCM contracts (August), InterGen's management services contract (September), the coal supply agreement (September), and the site lease agreements with Meralco (September). InterGen's Board of Directors granted final approval on October 13, 1996. By year-end 1996, all important approvals had been secured. In December 1996, the partners paid their initial equity contributions, totaling US \$90 million, and construction commenced.

Project financing proceeded more smoothly than expected. The Eximbank approved a 60-month US \$417 million construction loan in November 1996. It also committed to refinance the loan upon satisfaction of a set of specified conditions and the successful completion of the project. Investors also proved receptive to the public portion of the debt. Initially targeted at US \$180 million, the issue was well oversubscribed, and the project closed a US \$215 million senior-secured, SEC-registered, public bond issue on July 1, 1997. The public issue closed only one day before the devaluation of the Thai baht, the event that triggered the Asian Financial Crisis.

In late-1996—as PG&E was negotiating to sell its stake in InterGen back to Bechtel and was thus reluctant to fund necessary equity contributions—InterGen arranged to sell a 26% stake in the project to Global Power Investments (GPI) for US \$59 million. GPI was an investment fund formed by GE Capital, Soros Fund Management, and the International Finance Corporation to focus on private power projects in emerging markets, particularly Asia and Latin America. The sale kept the project on track, reduced InterGen's equity share in the project to 45.875%, and led to a 12% profit on the equity sold.

By the end of 1997 construction of the Quezon Project was well under way. Construction was 45 percent complete and Daul believed that project risk had declined significantly. Approval, contracting, financing, and construction risk were all substantially lower than in late-1995 and InterGen had shifted to using discount rates of 11 percent and 16 percent for valuing project and equity cash flow projections. Projected cash flows were unchanged, but the lower discount rate increased project NPV from US \$58.4 million to US \$139.8 million, and the equity NPV from US \$22.5 million to US \$114.2 million (see Table B).

Table B

|                                       | Project    |           |     | Equity     |           |     |
|---------------------------------------|------------|-----------|-----|------------|-----------|-----|
|                                       | Disc. Rate | NPV (000) | IRR | Disc. Rate | NPV (000) | IRR |
| Preliminary approval<br>December 1995 | 12%        | 58,381    | 13% | 20%        | 22,450    | 23% |
| December 1997                         | 11%        | 139,757   |     | 16%        | 114,152   |     |
| Start-up Date<br>December, 2000       | 10%        | 247,932   |     | 14%        | 188,760   |     |

Events in the product market were somewhat less promising. The DOE continued to approve new generating capacity, but at a rate higher than InterGen had expected. Many of the new approvals were for gas-fired projects, that would operate at lower cost than the Quezon plant, and were due to come on-line after 2000. The presence of additional, low cost capacity increased the chance that Meralco would move to renegotiate.

While most types of project risk declined between 1995 and 1997, country risk appeared to be increasing. Like many countries in the region, the Philippines fell victim to the Asian crisis in 1997 and 1998. The Philippine peso fell 21% from July to December 1997, and the central bank intervened to limit further currency depreciation. Growth in 1997 was relatively healthy, at 5.1 percent down from 5.9 percent in 1996.<sup>30</sup> But the forecast for 1998 was much lower. Both the Philippine government and the International Monetary Fund (IMF) projected only 2.5 percent, and several private economists suggested that GDP might decline.

As 1997 drew to a close, it was not clear if the crisis was a temporary setback or if the regional slump would be protracted.<sup>31</sup> The Philippines had been affected much less than other countries in the region. Indonesia was projected to contract by as much as 12.5%, Thailand by 7%, South Korea by 5% and Malaysia by 2%.<sup>32</sup> Because of increasing country risk, Daul considered raising the equity discount rate used for financial projections from 16 percent to 18 percent.

### A New Opportunity

In December 1997, Daul was approached by Roger McPeck, a representative from Power Investments Limited (PIL). PIL was a subsidiary of a large British utility that was interested in expanding abroad into unregulated markets. They were bullish on Southeast Asia and made InterGen an attractive offer. PIL proposed to buy half of InterGen's remaining equity (22.9 percent of project equity) for US \$85 million. InterGen's carrying cost on the position was only US \$46.4 million, and Daul (using a 16 percent equity discount rate) valued the position at US \$72.5 million.

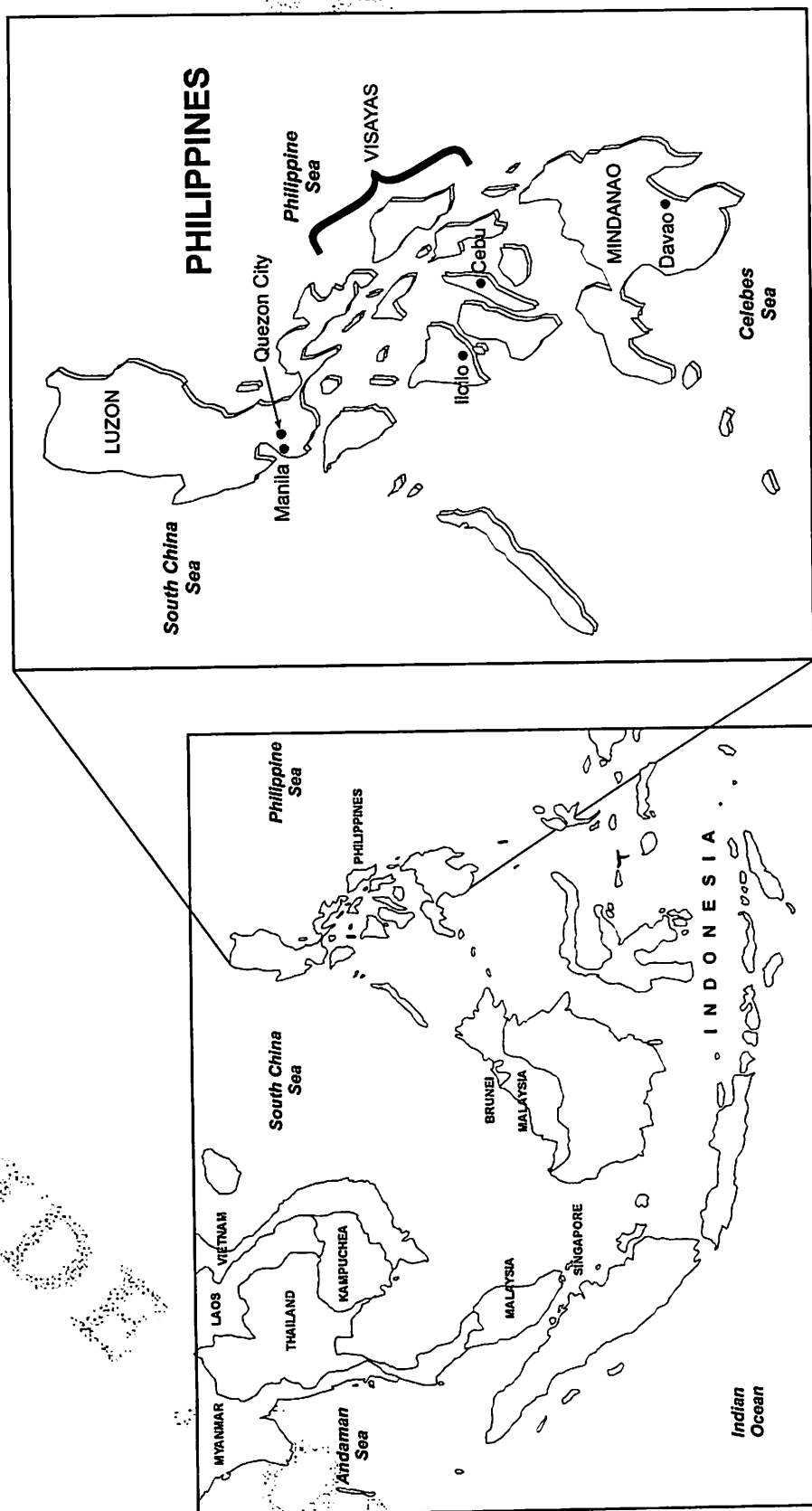
Table C

|                          | Equity Discount Rate | Realized Profits (millions) | Cost Basis (millions) | Imputed Equity Value (millions) | Notes                |
|--------------------------|----------------------|-----------------------------|-----------------------|---------------------------------|----------------------|
| At approval              | 20%                  | --                          | 146.6                 | 161.9                           | (= 225.2 * 71.875 %) |
| GPI Sale                 | 19%                  | 6.5                         | 92.8                  | 107.8                           | (= 235.0 * 45.875%)  |
| December 1997            | 16%                  | 6.5                         | 92.8                  | 145.1                           | (= 316.3 * 45.875%)  |
| PIL Offer                | 16%                  | 45.1                        | 46.4                  | 72.5                            | (=316.3 * 22.93%)    |
| Forecast Value Dec. 2000 | 14%                  | 6.5                         | 92.8                  | 179.4                           | (= 391.0 * 45.875)   |

From a purely financial perspective, the PIL offer looked attractive. But Daul was concerned that PIL's offer was significantly less than he expected the project to be worth at completion (see Table C).

InterGen's next Board meeting was less than a month away. Daul was scheduled to meet with Riva prior to that meeting and present his recommendation on the PIL offer. Should he recommend retaining InterGen's current equity, betting on the option value inherent in the "national energy company" strategy? Or should he recommend selling the position, cutting InterGen's exposure to this volatile region, and redeploying capital elsewhere.

## Exhibit 1 The Philippines



## InterGen and the Quezon Power Project

## Exhibit 2 Electricity Consumption

| Year | Asia as %<br>of world | Philippines as<br>% of Asia |
|------|-----------------------|-----------------------------|
| 1980 | 16.25                 | 1.33                        |
| 1981 | 16.53                 | 1.36                        |
| 1982 | 17.10                 | 1.34                        |
| 1983 | 17.42                 | 1.36                        |
| 1984 | 18.08                 | 1.25                        |
| 1985 | 18.45                 | 1.27                        |
| 1986 | 18.90                 | 1.18                        |
| 1987 | 19.40                 | 1.17                        |
| 1988 | 20.04                 | 1.10                        |
| 1989 | 20.82                 | 1.07                        |
| 1990 | 21.81                 | 1.02                        |
| 1991 | 22.52                 | 0.83                        |
| 1992 | 26.01                 | 0.82                        |
| 1993 | 26.92                 | 0.78                        |
| 1994 | 28.22                 | 0.85                        |
| 1995 | 28.91                 | 0.88                        |

Source: United Nations *Energy Statistical Yearbook*Exhibit 3 Capacity and Utilization Rate by Country<sup>s</sup>

|                             | 1980   | 1983   | 1986   | 1989   | 1992   | 1995   | Capacity Growth<br>(1980 – 1995) |
|-----------------------------|--------|--------|--------|--------|--------|--------|----------------------------------|
| <b>HONG KONG</b>            |        |        |        |        |        |        |                                  |
| Net Installed Capacity (MW) | 3,342  | 4,230  | 5,953  | 7,456  | 8,932  | 10,096 | 202%                             |
| Utilization Rate            | 43%    | 44%    | 41%    | 42%    | 45%    | 32%    |                                  |
| <b>KOREA, Republic of</b>   |        |        |        |        |        |        |                                  |
| Net Installed Capacity (MW) | 10,379 | 14,385 | 19,607 | 23,522 | 26,935 | 35,355 | 240%                             |
| Utilization Rate            | 44%    | 42%    | 41%    | 50%    | 63%    | 66%    |                                  |
| <b>PHILIPPINES</b>          |        |        |        |        |        |        |                                  |
| Net Installed Capacity (MW) | 4,478  | 5,634  | 6,456  | 7,192  | 7,485  | 7,722  | 72%                              |
| Utilization Rate            | 46%    | 52%    | 49%    | 51%    | 59%    | 59%    |                                  |
| <b>SINGAPORE</b>            |        |        |        |        |        |        |                                  |
| Net Installed Capacity (MW) | 2,010  | 2,206  | 2,741  | 3,380  | 4,100  | 4,513  | 124%                             |
| Utilization Rate            | 39%    | 45%    | 44%    | 47%    | 49%    | 56%    |                                  |
| <b>THAILAND</b>             |        |        |        |        |        |        |                                  |
| Net Installed Capacity (MW) | 4,010  | 5,557  | 7,550  | 8,314  | 12,880 | 17,544 | 337%                             |
| Utilization Rate            | 43%    | 39%    | 39%    | 54%    | 53%    | 54%    |                                  |

Source: United Nations *Energy Statistics Yearbook*. (1995, 1991, 1987, 1983)

<sup>s</sup> The utilization rate is based upon a maximum of 8,760 kilowatt-hours per kilowatt of capacity. The average utilization rate for seven developing Asian nations between 1980 and 1995 was 45%. The Asian countries used were: Hong Kong, Republic of Korea, Indonesia, Malaysia, Philippines, Singapore, and Thailand. The average utilization rate for four developed nations during the same time frame was 47%. The countries used were Japan, United States, France and Germany.

**Exhibit 4 Philippines: Economic Indicators**

|                                    | 1988  | 1989   | 1990    | 1991    | 1992    | 1993    | 1994    | 1995    | 1996               |
|------------------------------------|-------|--------|---------|---------|---------|---------|---------|---------|--------------------|
| GDP at current market prices P bn. | 803.0 | 925.2  | 1,074.6 | 1,237.6 | 1,351.6 | 1,474.5 | 1,692.9 | 1,906.3 | 2,198.9            |
| Real GDP growth %                  | 7.2   | 5.7    | 3.9     | -       | 0.1     | 3.0     | 4.4     | 4.9     | 5.5                |
| Consumer price inflation %         | 8.7   | 12.2   | 14.2    | 18.7    | 8.9     | 7.6     | 9.3     | 8.1     | 8.4                |
| Population m (mid-year)            | 58.72 | 60.10  | 61.48   | 62.87   | 65.34   | 66.98   | 68.62   | 70.27   | 71.88 <sup>1</sup> |
| Exports fob \$ mm                  | 7,074 | 7,821  | 8,186   | 8,840   | 9,824   | 11,375  | 13,483  | 17,447  | 20,543             |
| Imports fob \$ mm                  | 8,159 | 10,419 | 12,206  | 12,050  | 14,519  | 17,597  | 21,333  | 26,391  | 31,885             |
| Current account \$ mm              | -0.39 | -1.47  | -2.70   | -0.94   | -858    | -3,016  | -2,950  | -3,297  | -3,772             |
| Reserves excluding gold \$ mm      | 1,003 | 1,417  | 924     | 3,246   | 4,403   | 4,676   | 6,017   | 6,372   | 10,030             |
| Total external debt \$ bn          | 29.0  | 28.4   | 30.2    | 31.9    | 33.0    | 35.9    | 40.0    | 39.4    | 42.4 <sup>1</sup>  |
| Total external debt service \$ bn  | 3.41  | 3.27   | 3.56    | 3.43    | 4.30    | 4.91    | 4.64    | 5.53    | 4.92 <sup>2</sup>  |
| Exchange rate (avg.) P:\$          | 21.10 | 21.74  | 24.31   | 27.48   | 25.51   | 27.12   | 26.42   | 25.71   | 26.22              |

Source: Economist Intelligence Unit.

<sup>1</sup> EIU Estimate.<sup>2</sup> Central bank figure.**Exhibit 5 Projected Capacity Additions 1996 – 2010 (megawatts)**

| Year | Annual | Cumulative   | Year | Annual | Cumulative    |
|------|--------|--------------|------|--------|---------------|
| 1996 | 270    | --           |      |        |               |
| 1997 | 584    | 854          | 2004 | 1,811  | 10,932        |
| 1998 | 940    | 1,794        | 2005 | 2,048  | 12,980        |
| 1999 | 1,719  | 3,513        | 2006 | 4,013  | 16,993        |
| 2000 | 997    | 4,510        | 2007 | 2,424  | 19,417        |
| 2001 | 1,406  | 5,916        | 2008 | 2,016  | 21,433        |
| 2002 | 1,884  | 7,800        | 2009 | 1,980  | 23,413        |
| 2003 | 1,321  | 9,121        | 2010 | 3,171  | 26,584        |
|      |        | <b>TOTAL</b> |      |        | <b>26,584</b> |

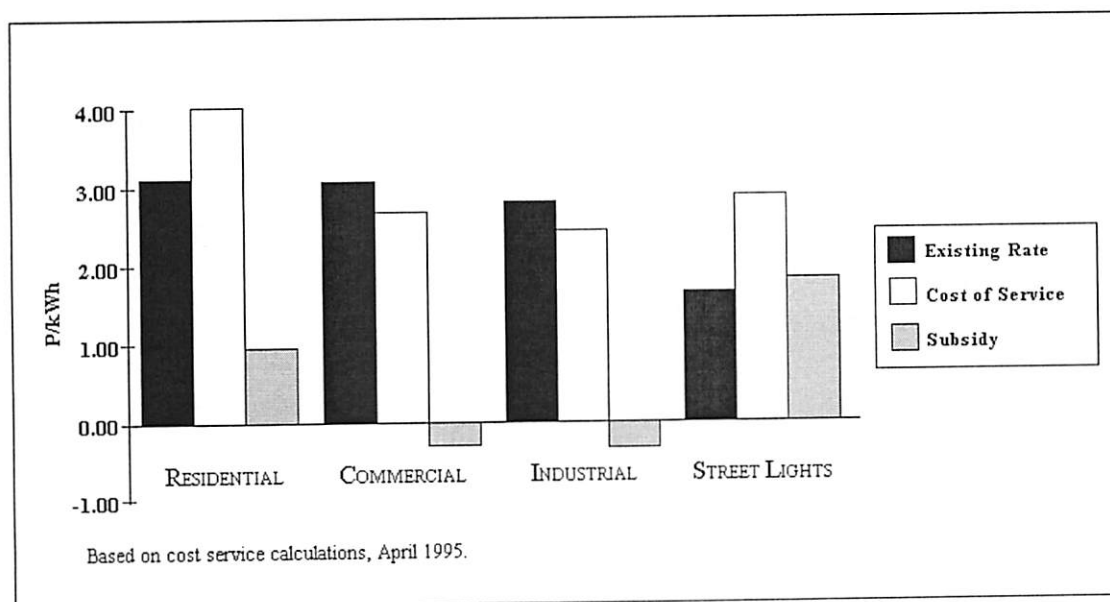
Source: Power in the Philippines: Market Prospects and Investment Opportunities.

Exhibit 6a Meralco average Tariffs (pesos per kWh)

|      | Residential | Commercial | Industrial | Others* | Total |
|------|-------------|------------|------------|---------|-------|
| 1990 | 1.91        | 1.86       | 1.79       | 1.07    | 1.84  |
| 1991 | 2.41        | 2.42       | 2.23       | 1.39    | 2.34  |
| 1992 | 2.65        | 2.63       | 2.43       | 1.59    | 2.56  |
| 1993 | 2.82        | 2.84       | 2.66       | 1.55    | 2.76  |
| 1994 | 3.11        | 3.09       | 2.85       | 1.78    | 3.00  |
| 1995 | 3.06        | 3.02       | 2.77       | 1.83    | 2.94  |

Source: Power in the Philippines: Market Prospects and Investment Opportunities

Exhibit 6b Cross Subsidies between Meralco customer groups



Source: Power in the Philippines: Market Prospects and Investment Opportunities

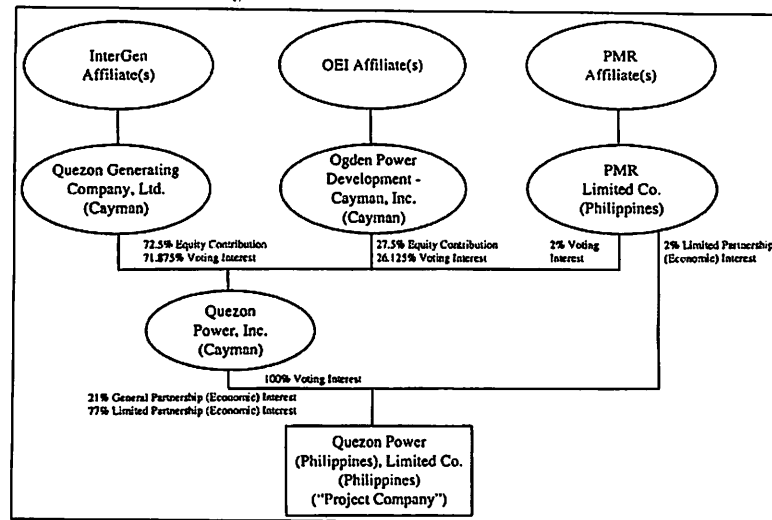


**Exhibit 7** Selected InterGen Power & Pipeline Projects

| Project            | Location       | Description                              | Major Owners   | Total Cost    | Operational Date |
|--------------------|----------------|--|--|---------------|------------------|
| Quezon             | Philippines    | 440 MW, Coal-fired,<br>30 km trans. line | InterGen 71.5%<br>Ogden 26.5%<br>PMR 2%                | \$812 million | Dec. 1999        |
| Rocksavage         | United Kingdom | 770 MW,<br>Combined cycle                | InterGen 100%  | \$600 million | Jan. 1998        |
| Samalayuca         | Mexico         | 700 MW,<br>Combined cycle                | InterGen 20%;<br>GE 40%<br>El Paso 30%<br>ICA 10%      | \$630 million | Nov. 1998        |
| Spalding           | United Kingdom | 770 MW,<br>Combined cycle                | InterGen 100%  | \$577 million | March 2000       |
| TermoEmcali        | Colombia       | 235 MW,<br>Natural gas-fired             | InterGen 54%<br>Emcali 43%<br>CFP 3%                   | \$212 million | Jan. 1999        |
| Jacui              | Brazil         | 360 MW,<br>Pulverized coal fired         | InterGen 100%  | \$370 million | June 2000        |
| Sao Paulo I and II | Brazil         | 900 MW                                   | InterGen 50%<br>Shell 40%<br>VBC 10%                   | \$510 million | June 2001        |
| Coryton            | United Kingdom | 750 MW                                   | InterGen 100%  | \$660 million | March 2001       |
| Meizhou Wan        | China          | 2 x 360 MW,<br>Coal-fired                | InterGen 40.5%<br>Lippo Group 49.5%<br>Others 10%      | \$751 million | Aug. 2000        |
| Mayakan            | Mexico         | 700 km natural gas pipeline              | InterGen 32.5%<br>TransCanada 62.5%<br>Gutsa Const. 5% | \$260 million | Sept. 1999       |

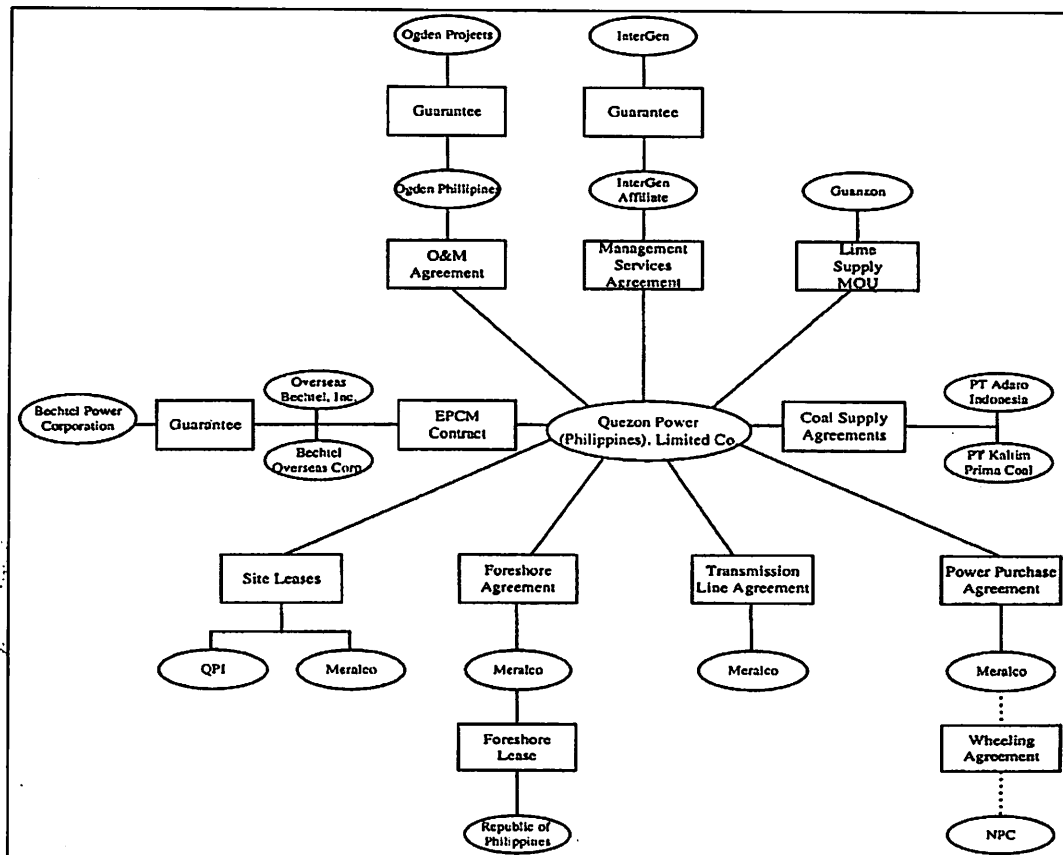
Source: Private Power Executive, InterGen

## Exhibit 8a Quezon Project Ownership Structure



Source: Memorandum on the Quezon Power Project Eximbank-Supported (Political Risk) Loan Facility

## Exhibit 8b Quezon Project Operating Contracts



Source: Memorandum on the Quezon Power Project Eximbank-Supported (Political Risk) Loan Facility

## Exhibit 9 Financing Plan (US\$)

|   | Construction Phase | Term Phase         |
|---|--------------------|--------------------|
| <b>Sources of Funds</b>                           |                    |                    |
| Eximbank-Supported (Political Risk) Loan Facility | 358,894,000        |                    |
| Eximbank Direct Term Loan Facility                |                    | 391,733,000        |
| Senior-secured bonds, due 2017                    | <u>215,000,000</u> | <u>215,000,000</u> |
| <b>Total Credit Facilities</b>                    | <b>573,894,000</b> | <b>606,733,000</b> |
| Base Equity Contributions                         | <u>202,244,000</u> | <u>202,244,000</u> |
| <b>Total Equity Contributions</b>                 | <b>202,244,000</b> | <b>202,244,000</b> |
| <b>Total Sources</b>                              | <b>776,138,000</b> | <b>808,977,000</b> |
| <b>Uses of Funds</b>                              |                    |                    |
| Generation Facility                               | 419,560,000        | 419,560,000        |
| Transmission Line                                 | 23,306,000         | 23,306,000         |
| VAT, Insurance, Escalation                        | <u>21,878,000</u>  | <u>21,878,000</u>  |
| <b>Total EPCM Costs</b>                           | <b>464,744,000</b> | <b>464,744,000</b> |
| Start-up and Other Owner Costs                    | 50,487,000         | 50,487,000         |
| Development Costs                                 | 37,885,000         | 37,885,000         |
| Development Fee                                   | 8,000,000          | 8,000,000          |
| Eximbank Exposure Fee                             | --                 | 32,839,000         |
| Interest During Construction                      | 75,038,000         | 75,038,000         |
| Other Financing Fees                              | 68,425,000         | 68,425,000         |
| Contingency, budgeted                             | 35,000,000         | 35,000,000         |
| Other   | <u>36,559,000</u>  | <u>36,559,000</u>  |
| <b>Total Uses</b>                                 | <b>776,138,000</b> | <b>808,977,000</b> |
| <b>Contingent Commitments</b>                     |                    |                    |
| Cost-Overrun Loan Facility (Unsupported)          | 30,000,000         | 30,000,000         |
| Contingent Equity Contributions                   | <u>20,000,000</u>  | <u>20,000,000</u>  |
| <b>Total Contingent Commitments</b>               | <b>50,000,000</b>  | <b>50,000,000</b>  |

Source: Prospectus: Quezon Power (Philippines), Limited Co. 8.86% Senior Secured Bonds Due 2017.

## Exhibit 10a InterGen Valuation Model

|   | 1996            | 1997             | 1998             | 1999             |
|---|-----------------|------------------|------------------|------------------|
| <b>USES DURING CONSTRUCTION</b>         |                 |                  |                  |                  |
| Environmental, Procurement, Contracting | 11,408          | 170,178          | 210,784          | 54,123           |
| Start-up Costs                          | 559             | 4,968            | 13,370           | 8,973            |
| Development Costs & Fees                | 30,098          | -                | -                | 13,000           |
| IDC                                     | -               | 16,487           | 32,515           | 44,648           |
| Financing Costs                         |                 |                  |                  |                  |
| Upfront Fees                            | 9,250           | 2,930            | -                | 45,128           |
| Commitment Fees                         | 245             | 5,580            | 4,689            | 3,978            |
| Development Capital & Project Equity    | 3,250           | -                | -                | -                |
| Debt Placement Advisory                 | 3,750           | -                | -                | -                |
| Other Financing Costs                   | 7,300           | 6,552            | 7,498            | 5,473            |
| Contingency                             | -               | 11,667           | 11,667           | 11,667           |
| Working Capital                         | -               | -                | -                | 8,865            |
| Other                                   | 8,711           | 6,596            | 9,474            | 10,463           |
| <b>TOTAL USES</b>                       | <b>74,571</b>   | <b>224,958</b>   | <b>289,997</b>   | <b>206,318</b>   |
| <b>SOURCES DURING CONSTRUCTION</b>      |                 |                  |                  |                  |
| Debt                                    |                 |                  |                  |                  |
| Working Capital                         | -               | -                | -                | -                |
| Eximbank                                | -               | 44,601           | 192,848          | 144,435          |
| Capital Markets Debt                    | -               | 215,000          | -                | -                |
| OPIC Loan                               | 74,573          | (74,573)         | -                | -                |
| Local Bank Loan                         | -               | -                | -                | -                |
| International Banks                     | -               | -                | -                | -                |
| <b>Total Debt</b>                       | <b>74,573</b>   | <b>185,028</b>   | <b>192,848</b>   | <b>144,435</b>   |
| Equity                                  |                 |                  |                  |                  |
| InterGen                                | -               | 28,950           | 70,433           | 44,864           |
| Ogden                                   | -               | 10,981           | 26,716           | 17,017           |
| <b>Total Equity</b>                     | <b>-</b>        | <b>39,931</b>    | <b>97,149</b>    | <b>61,882</b>    |
| <b>TOTAL SOURCES</b>                    | <b>74,573</b>   | <b>224,959</b>   | <b>289,996</b>   | <b>206,317</b>   |
| <b>Project Cash Flow</b>                | <b>(74,571)</b> | <b>(224,958)</b> | <b>(289,997)</b> | <b>(206,318)</b> |
| <b>Equity Cash Flow</b>                 | <b>-</b>        | <b>(39,931)</b>  | <b>(97,149)</b>  | <b>(61,882)</b>  |

Source: InterGen Request for Approval for Equity Investment and Development Funding

## InterGen and the Quezon Power Project

## Exhibit 10b Projected Cash Flow

|   | 1996            | 1997             | 1998             | 1999             | 2000           | 2001           | 2002           | 2003           | 2004           | 2005           | 2006           | 2007           | 2008           | 2009           | 2010           | 2011           |
|---|-----------------|------------------|------------------|------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>Revenues</b>                         |                 |                  |                  |                  |                |                |                |                |                |                |                |                |                |                |                |                |
| <b>Fixed</b>                            |                 |                  |                  |                  |                |                |                |                |                |                |                |                |                |                |                |                |
| Capacity                                |                 |                  |                  |                  | 91,701         | 95,183         | 98,665         | 98,665         | 98,665         | 98,665         | 98,665         | 98,665         | 98,665         | 98,665         | 98,665         | 98,665         |
| Fixed O&M                               |                 |                  |                  |                  | 42,572         | 45,595         | 48,814         | 50,484         | 52,286         | 54,182         | 56,183         | 58,291         | 60,466         | 62,719         | 65,079         | 67,583         |
| Franchise Tax                           |                 |                  |                  |                  | 4,642          | 4,908          | 5,186          | 5,292          | 5,495          | 5,620          | 5,743          | 5,871          | 6,004          | 6,140          | 6,283          | 6,433          |
| <b>Variable</b>                         |                 |                  |                  |                  |                |                |                |                |                |                |                |                |                |                |                |                |
| Variable O&M                            |                 |                  |                  |                  | 19,620         | 21,014         | 22,497         | 23,267         | 24,097         | 24,971         | 25,893         | 26,865         | 27,867         | 28,906         | 29,993         | 31,147         |
| Energy                                  |                 |                  |                  |                  | 71,557         | 76,706         | 82,207         | 85,059         | 92,557         | 96,024         | 99,258         | 102,551        | 105,991        | 109,526        | 113,207        | 117,055        |
| Interest                                |                 |                  |                  |                  | 19             | 28             | 39             | 130            | 136            | 54             | 94             | 87             | 260            | 255            | 65             | 65             |
| Transmission Line                       |                 |                  |                  |                  | 6,633          | 6,884          | 7,135          | 7,145          | 7,155          | 7,162          | 7,170          | 7,182          | 7,193          | 7,203          | 7,213          | 7,222          |
| <b>Total Revenue</b>                    |                 |                  |                  |                  | <b>236,744</b> | <b>250,318</b> | <b>264,543</b> | <b>270,042</b> | <b>280,391</b> | <b>286,678</b> | <b>293,006</b> | <b>299,512</b> | <b>306,446</b> | <b>313,414</b> | <b>320,505</b> | <b>328,170</b> |
| <b>Expenses</b>                         |                 |                  |                  |                  |                |                |                |                |                |                |                |                |                |                |                |                |
| Fuel                                    |                 |                  |                  |                  | 71,240         | 76,515         | 82,121         | 85,053         | 92,639         | 95,599         | 99,010         | 102,444        | 105,983        | 109,623        | 112,706        | 116,763        |
| Political Risk Insurance                |                 |                  |                  |                  | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              |
| LC Fees                                 |                 |                  |                  |                  | 459            | 465            | 470            | 474            | 477            | 455            | 432            | 435            | 433            | 414            | 395            | 317            |
| Interest on Wk Capital Facility         |                 |                  |                  |                  | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              |
| Franchise Tax                           |                 |                  |                  |                  | 4,642          | 4,908          | 5,186          | 5,292          | 5,495          | 5,620          | 5,743          | 5,871          | 6,004          | 6,140          | 6,283          | 6,433          |
| <b>Operator O&amp;M Costs</b>           |                 |                  |                  |                  |                |                |                |                |                |                |                |                |                |                |                |                |
| Major Maintenance                       |                 |                  |                  |                  | 205            | 942            | 447            | 1,504          | 5,005          | 1,813          | 897            | 3,784          | 553            | 12,460         | 291            | 2,945          |
| Wages and Benefits                      |                 |                  |                  |                  | 3,688          | 3,814          | 3,948          | 4,083          | 4,229          | 4,382          | 4,544          | 4,715          | 4,890          | 5,073          | 5,263          | 5,466          |
| Taxes (VAT)                             |                 |                  |                  |                  | 2,936          | 3,030          | 3,129          | 3,236          | 3,352          | 3,473          | 3,601          | 3,737          | 3,876          | 4,020          | 4,172          | 4,332          |
| Insurance                               |                 |                  |                  |                  | 4,048          | 4,177          | 4,314          | 4,462          | 4,621          | 4,789          | 4,965          | 5,152          | 5,344          | 5,543          | 5,752          | 5,973          |
| Other Operator O&M Costs                |                 |                  |                  |                  | 19,160         | 18,948         | 18,719         | 19,359         | 20,049         | 20,773         | 21,545         | 22,350         | 23,183         | 24,046         | 24,954         | 25,910         |
| <b>Total Expenses</b>                   |                 |                  |                  |                  | <b>106,378</b> | <b>112,799</b> | <b>118,334</b> | <b>123,463</b> | <b>135,867</b> | <b>136,904</b> | <b>140,737</b> | <b>148,488</b> | <b>150,266</b> | <b>167,319</b> | <b>159,816</b> | <b>168,139</b> |
| <b>OPERATING MARGIN</b>                 |                 |                  |                  |                  | <b>130,366</b> | <b>137,519</b> | <b>146,209</b> | <b>146,579</b> | <b>144,524</b> | <b>149,774</b> | <b>152,269</b> | <b>151,024</b> | <b>156,180</b> | <b>146,095</b> | <b>160,689</b> | <b>160,031</b> |
| Plus: Change in Wkg. Cap. Req.          |                 |                  |                  |                  | (535)          | (461)          | (427)          | (1,034)        | (87)           | (319)          | (646)          | (148)          | (1,421)        | 626            | (694)          | (276)          |
| Less: Net Phil. Corp. Taxes             |                 |                  |                  |                  | -              | -              | -              | -              | -              | -              | 33,602         | 34,841         | 38,282         | 37,005         | 44,022         | 45,820         |
| <b>Cash available for debt services</b> |                 |                  |                  |                  | <b>129,831</b> | <b>137,058</b> | <b>145,782</b> | <b>145,545</b> | <b>144,437</b> | <b>149,455</b> | <b>118,021</b> | <b>116,035</b> | <b>116,477</b> | <b>109,716</b> | <b>115,973</b> | <b>113,935</b> |
| Less: Principal Repayment               |                 |                  |                  |                  | 34,713         | 38,319         | 43,729         | 47,336         | 52,746         | 56,353         | 47,336         | 49,139         | 56,353         | 56,353         | 52,746         | 52,746         |
| Less: Interest Payment                  |                 |                  |                  |                  | 48,615         | 45,962         | 42,893         | 39,314         | 35,317         | 30,811         | 26,258         | 22,355         | 18,127         | 13,342         | 8,651          | 4,237          |
| Less: Withholding Tax                   |                 |                  |                  |                  | 2,060          | 2,050          | 1,993          | 1,880          | 1,720          | 1,504          | 1,282          | 1,133          | 948            | 700            | 463            | 257            |
| <b>Philippine Cash Flow</b>             |                 |                  |                  |                  | <b>44,443</b>  | <b>50,727</b>  | <b>57,167</b>  | <b>57,015</b>  | <b>54,654</b>  | <b>60,787</b>  | <b>43,145</b>  | <b>43,408</b>  | <b>41,049</b>  | <b>39,321</b>  | <b>54,113</b>  | <b>56,695</b>  |
| <b>Project Cash Flow</b>                | <b>(74,571)</b> | <b>(224,958)</b> | <b>(289,997)</b> | <b>(206,318)</b> | <b>129,831</b> | <b>137,058</b> | <b>145,782</b> | <b>145,545</b> | <b>144,437</b> | <b>149,455</b> | <b>118,021</b> | <b>116,035</b> | <b>116,477</b> | <b>109,716</b> | <b>115,973</b> | <b>113,935</b> |
| <b>Equity Cash Flow</b>                 | <b>-</b>        | <b>(39,931)</b>  | <b>(97,149)</b>  | <b>(61,882)</b>  | <b>44,443</b>  | <b>50,727</b>  | <b>57,167</b>  | <b>57,015</b>  | <b>54,654</b>  | <b>60,787</b>  | <b>43,145</b>  | <b>43,408</b>  | <b>41,049</b>  | <b>39,321</b>  | <b>54,113</b>  | <b>56,695</b>  |

|   | 2012           | 2013           | 2014           | 2015           | 2016           | 2017           | 2018           | 2019           | 2020           | 2021           | 2022           | 2023           | 2024           | Total            |
|---|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|------------------|
| <b>Revenues</b>                         |                |                |                |                |                |                |                |                |                |                |                |                |                |                  |
| <b>Fixed</b>                            |                |                |                |                |                |                |                |                |                |                |                |                |                |                  |
| Capacity                                | 98,665         | 98,665         | 98,665         | 95,763         | 95,763         | 95,763         | 95,763         | 95,763         | 95,763         | 95,763         | 95,763         | 95,763         | 95,763         | 2,427,159        |
| Fixed O&M                               | 70,183         | 72,834         | 75,617         | 76,249         | 79,272         | 82,425         | 85,681         | 89,065         | 92,577         | 96,225         | 100,016        | 103,957        | 108,052        | 1,796,407        |
| Franchise Tax                           | 6,592          | 6,753          | 6,921          | 6,889          | 7,071          | 7,261          | 7,458          | 7,663          | 7,875          | 8,095          | 8,324          | 8,561          | 8,808          | 165,888          |
| <b>Variable</b>                         |                |                |                |                |                |                |                |                |                |                |                |                |                |                  |
| Variable O&M                            | 32,345         | 33,567         | 34,850         | 35,141         | 36,535         | 37,988         | 39,488         | 41,047         | 42,666         | 44,347         | 46,095         | 47,911         | 49,798         | 827,915          |
| Energy                                  | 121,161        | 125,342        | 129,648        | 130,236        | 134,878        | 139,791        | 144,865        | 150,121        | 155,578        | 161,236        | 167,110        | 173,211        | 179,547        | 3,064,422        |
| Interest In.                            | 6              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | 1,238            |
| Transmission Line                       | 7,231          | 7,243          | 7,257          | 7,069          | 7,085          | 7,101          | 7,118          | 7,136          | 7,154          | 7,173          | 7,192          | 7,213          | 7,234          | 178,503          |
| <b>Total Revenue</b>                    | <b>336,183</b> | <b>344,404</b> | <b>352,958</b> | <b>351,347</b> | <b>360,604</b> | <b>370,329</b> | <b>380,373</b> | <b>390,795</b> | <b>401,613</b> | <b>412,839</b> | <b>424,500</b> | <b>436,616</b> | <b>449,202</b> | <b>8,461,532</b> |
| <b>Expenses</b>                         |                |                |                |                |                |                |                |                |                |                |                |                |                |                  |
| Fuel                                    | 121,034        | 125,332        | 129,764        | 129,660        | 134,542        | 139,645        | 144,854        | 150,255        | 154,889        | 160,835        | 166,936        | 173,198        | 149,930        | 3,030,570        |
| Political Risk Insurance                | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -                |
| LC Fees                                 | 231            | 217            | 218            | 219            | 221            | 223            | 225            | 226            | 228            | 230            | 232            | 229            | 224            | 8,149            |
| Interest on Wk Capital Facility         | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -                |
| Franchise Tax                           | 6,592          | 6,753          | 6,921          | 6,889          | 7,071          | 7,261          | 7,458          | 7,663          | 7,875          | 8,095          | 8,324          | 8,561          | 8,808          | 165,888          |
| <b>Operator O&amp;M Costs</b>           |                |                |                |                |                |                |                |                |                |                |                |                |                |                  |
| Major Maintenance                       | 313            | 2,290          | 16,772         | 5,099          | 365            | 2,842          | 394            | 21,557         | 1,970          | 1,977          | 460            | 8,428          | 10,657         | 103,970          |
| Wages and Benefits                      | 5,676          | 5,891          | 6,116          | 6,342          | 6,594          | 6,856          | 7,127          | 7,408          | 7,700          | 8,004          | 8,319          | 8,647          | 8,987          | 147,762          |
| Taxes (VAT)                             | 4,499          | 4,669          | 4,847          | 5,036          | 5,236          | 5,444          | 5,659          | 5,882          | 6,114          | 6,355          | 6,606          | 6,866          | 7,136          | 117,243          |
| Insurance                               | 6,203          | 6,437          | 6,683          | 6,943          | 7,218          | 7,505          | 7,802          | 8,110          | 8,430          | 8,762          | 9,107          | 9,466          | 9,839          | 161,645          |
| Other Operator O&M Costs                | 26,910         | 27,929         | 28,992         | 29,795         | 30,978         | 32,210         | 33,482         | 34,807         | 36,176         | 37,601         | 39,081         | 40,623         | 42,224         | 699,803          |
| <b>Total Expenses</b>                   | <b>171,458</b> | <b>179,518</b> | <b>200,313</b> | <b>189,983</b> | <b>192,225</b> | <b>201,986</b> | <b>207,001</b> | <b>235,908</b> | <b>223,382</b> | <b>231,859</b> | <b>239,065</b> | <b>256,018</b> | <b>237,805</b> | <b>4,435,030</b> |
| <b>OPERATING MARGIN</b>                 | <b>164,725</b> | <b>164,886</b> | <b>152,645</b> | <b>161,364</b> | <b>168,379</b> | <b>168,343</b> | <b>173,372</b> | <b>154,887</b> | <b>178,231</b> | <b>180,980</b> | <b>185,435</b> | <b>180,598</b> | <b>211,397</b> | <b>4,026,502</b> |
| Plus: Change in Wkg. Cap. Req.          | (671)          | (1,733)        | 861            | (187)          | (814)          | (418)          | (2,409)        | 1,044          | (706)          | (601)          | (1,412)        | 1,518          | 10,952         | -                |
| Less: Net Phil. Corp. Taxes             | 49,734         | 50,542         | 46,600         | 49,935         | 52,674         | 52,943         | 54,972         | 48,788         | 57,182         | 58,385         | 60,172         | 58,712         | 69,672         | 943,883          |
| <b>Cash available for debt services</b> | <b>114,320</b> | <b>112,611</b> | <b>106,906</b> | <b>111,242</b> | <b>114,891</b> | <b>114,982</b> | <b>115,991</b> | <b>107,143</b> | <b>120,343</b> | <b>121,994</b> | <b>123,851</b> | <b>123,404</b> | <b>152,677</b> | <b>3,082,621</b> |
| Less: Principal Repayment               | 9,017          | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | 596,886          |
| Less: Interest Payment                  | 695            | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | 336,577          |
| Less: Withholding Tax                   | 77             | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | 16,067           |
| <b>Philippine Cash Flow</b>             | <b>104,531</b> | <b>112,611</b> | <b>106,906</b> | <b>111,242</b> | <b>114,891</b> | <b>114,982</b> | <b>115,991</b> | <b>107,143</b> | <b>120,343</b> | <b>121,994</b> | <b>123,851</b> | <b>123,404</b> | <b>152,677</b> | <b>2,133,091</b> |
| <b>Project Cash Flow</b>                | <b>114,320</b> | <b>112,611</b> | <b>106,906</b> | <b>111,242</b> | <b>114,891</b> | <b>114,982</b> | <b>115,991</b> | <b>107,143</b> | <b>120,343</b> | <b>121,994</b> | <b>123,851</b> | <b>123,404</b> | <b>152,677</b> | <b>3,082,621</b> |
| <b>Equity Cash Flow</b>                 | <b>104,531</b> | <b>112,611</b> | <b>106,906</b> | <b>111,242</b> | <b>114,891</b> | <b>114,982</b> | <b>115,991</b> | <b>107,143</b> | <b>120,343</b> | <b>121,994</b> | <b>123,851</b> | <b>123,404</b> | <b>152,677</b> | <b>2,133,091</b> |

Source: InterGen. Request for Approval for Equity Investment and Development Funding

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